CLOSED
BUTTE-SILVER BOW LANDFILL
LICENSE NUMBER 20

PIONEER TECHNICAL SERVICES

DECEMBER 2005 SAMPLING OF GROUNDWATER MONITORING WELL BSB-A6-R

JANUARY 2006

IS LOCATED IN THE GROUNDWATER MONITORING REPORTS ARCHIVE, BOX NUMBER 27

RECEIVED 1/31/2006

CLOSED
BUTTE-SILVER BOW LANDFILL
LICENSE NUMBER 20

PIONEER TECHNICAL SERVICES

SEPTEMBER 2005 GROUNDWATER MONITORING REPORT

NOVEMBER 2005

IS LOCATED IN THE GROUNDWATER MONITORING REPORTS ARCHIVE, BOX NUMBER 27

RECEIVED 11/2/2005

CLOSED
BUTTE-SILVER BOW LANDFILL
LICENSE NUMBER 20

HKM

ANALYTICAL RESULTS, JUNE 2005 BSB-A6-R
SAMPLE

JULY 2005

IS LOCATED IN THE GROUNDWATER
MONITORING REPORTS ARCHIVE,
BOX NUMBER 27

RECEIVED ?

CLOSED
BUTTE-SILVER BOW LANDFILL
LICENSE NUMBER 20

PIONEER TECHNICAL SERVICES

MARCH 2005 GROUNDWATER MONITORING REPORT

JUNE 2005

IS LOCATED IN THE GROUNDWATER MONITORING REPORTS ARCHIVE, BOX NUMBER 27

RECEIVED 6/9/2005

CLOSED
BUTTE-SILVER BOW LANDFILL
LICENSE NUMBER 20

PIONEER TECHNICAL SERVICES

DECEMBER 2004 SAMPLING OF GROUNDWATER MONITORING WELL BSB-A6-R

MARCH 2005

IS LOCATED IN THE GROUNDWATER MONITORING REPORTS ARCHIVE, BOX NUMBER 27

RECEIVED 3/18/2005

CLOSED
BUTTE-SILVER BOW LANDFILL
LICENSE NUMBER 20

PIONEER TECHNICAL SERVICES

SEPTEMBER 2004 GROUNDWATER MONITORING REPORT

JANUARY 2005

IS LOCATED IN THE GROUNDWATER MONITORING REPORTS ARCHIVE, BOX NUMBER 27

RECEIVED 1/13/2005

CLOSED
BUTTE-SILVER BOW LANDFILL
LICENSE NUMBER 20

PIONEER TECHNICAL SERVICES

JUNE 2004 SAMPLING OF GROUNDWATER MONITORING WELL BSB-A6-R

SEPTEMBER 2004

IS LOCATED IN THE GROUNDWATER MONITORING REPORTS ARCHIVE, BOX NUMBER 27

RECEIVED 9/21/2004

CLOSED
BUTTE-SILVER BOW LANDFILL
LICENSE NUMBER 20

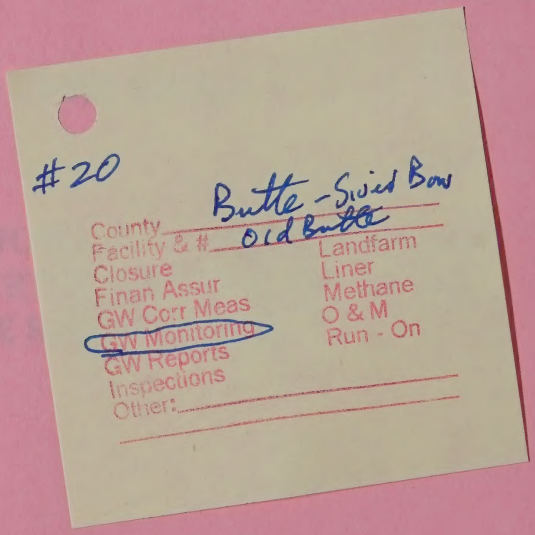
PIONEER TECHNICAL SERVICES

MARCH 2004 GROUNDWATER MONITORING REPORT

JUNE 2004

IS LOCATED IN THE GROUNDWATER MONITORING REPORTS ARCHIVE, BOX NUMBER 27

RECEIVED 6/15/2004


#20
County Butte - Silver Bow
Facility & # Old Butte
Closure
Finan Assur
GW Corr Meas
GW Monitoring
GW Reports
Inspections
Other:
Landfarm
Liner
Methane
O & M
Run - On

126 W. GRANITE
BUTTE, MT 59701

BSB
Butte-Silver Bow
PUBLIC WORKS DEPARTMENT
WATER-ROADS-ANIMAL CONTROL-METRO SEWER-PARKS AND REC
EQUIPMENT MAINT.-TRAFFIC CONTROL-LANDFILL-TRANSIT

pubworks@co.silverbow.mt.us

OFFICE: (406) 497-6515
FAX: (406) 497-6524

RECEIVED
JAN 2 3 2004
Dept. of Enviro. Quality
Waste & Underground
Tank Management Bureau

January 16, 2004

Mr. F. Patrick Crowley
Solid Waste Regulatory Program Manager
Montana Dept. of Environmental Quality
P.O. Box 200901
Helena, MT 59620 - 0901

RE: Old Butte Landfill - License No. 20, April 2003 Ground Water Monitoring Event

Dear Pat:

This letter is in response to your letter, dated January 8, 2004, regarding the temperature of ground water samples received at the laboratories from the April 2003 ground water monitoring event, and statistical tests applicable to monitoring results, for the Old Butte - Silver Bow (BSB) Landfill.

As you are probably aware, the temperature of samples exceeding 4° C when received at the laboratory is a fairly frequent problem, especially during warm weather conditions. You were correct when speculating that Pioneer used frozen "Blue Ice" containers as opposed to crushed ice when storing/transporting samples in coolers during the April 2003 ground water monitoring event. Hereafter, Pioneer will use a large quantity of crushed ice when storing/transporting samples in coolers to minimize this problem.

As you requested, to demonstrate the effectiveness of corrective measures at the Old Butte Landfill, future ground water monitoring reports will include trend analyses for selected "Contaminants of Concern" within each well. The data will be presented graphically over time and will include graphs for the following contaminants for each specific well:

MBMG-2 (Background Well):	Not Applicable
BSB-A1 (North):	1,1-Dichloroethane cis-1,2-Dichloroethene Tetrachloroethene Trichloroethene

BSB-A5 (Northeast):	1,1-Dichloroethane cis-1,2-Dichloroethene Tetrachloroethene Trichloroethene
BSB-A6R (Central):	1,1-Dichloroethane cis-1,2-Dichloroethene Tetrachloroethene Trichloroethene
CLK-1 (Clark Tailings South):	Arsenic Cadmium Iron Antimony Zinc
CLK-2 (Clark Tailings North):	Iron Zinc

The specific contaminants applicable to each well, as listed above, were selected based on the contaminant consistently exceeding Human Health Standards and/or background concentrations.

Hopefully, this letter adequately addresses your concerns. If you wish to discuss further, feel free to contact me at (406) 497-6521.

Sincerely,

Gary Keeler

Gary Keeler
BSB Landfill Manager

encl.

cc: Brad Hollamon, Pioneer

Montana Department of
ENVIRONMENTAL QUALITY

Brian Schweitzer, Governor

P.O. Box 200901 • Helena, MT 59620-0901 • (406) 444-2544 • www.deq.mt.gov

MAILED
12-8-05

December 8, 2005

Mr. Gary Keeler
Butte-Silver Bow Landfill
126 West Granite Street
Butte, MT 59701-9216

RE: September 2005 Ground Water Monitoring, Old Butte Landfill, License Number 20

Dear Gary:

The Solid Waste Program received the September 2005 Groundwater Monitoring Report on November 3, 2005. It was assigned to Mary Louise Hendrickson for review. I anticipate that you will receive a response from Ms. Hendrickson within 90 days.

If you have any questions on the review status or the results, please contact Ms. Hendrickson directly at 406-444-1808, or by email at mhendrickson@mt.gov. If you have any other issues or questions, please contact me at 406-444-5345, or at rithompson@mt.gov.

Sincerely

Rick Thompson, Supervisor
Waste Management Section
Waste and Underground Tank Management Bureau

Montana Department of
ENVIRONMENTAL QUALITY
Brian Schweitzer, Governor
P.O. Box 200901 • Helena, MT 59620-0901 • (406) 444-2544 • www.deq.mt.gov

MAILED
2-1-05 gh

February 1, 2005

Mr. Gary Keeler
Butte-Silver Bow Landfill
126 West Granite Street
Butte, MT 59701-9216

RE: September, 2004 Ground Water Monitoring, Old Butte Landfill, License Number ~~90~~ 20

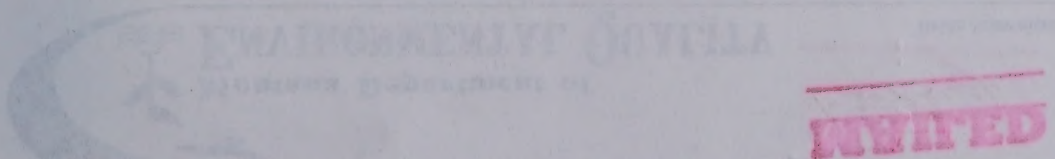
Dear Gary:

The Solid Waste Program received the Fall 2004, Groundwater Monitoring Report on January 11, 2005. It was assigned to Mary Louise Hendrickson for review. She has replaced Ms. Potts as staff hydrogeologist. I anticipate that you will received a response from Ms Hendrickson within 90 days.

If you have any questions on the review status or the results, please contact Ms. Hendrickson directly at 406-444-1808, or by email at mhendrickson@mt.gov. If you have any other issues or questions, please contact me at 406-444-5345, or at rithompson@mt.gov.

Sincerely,

Rick Thompson, Supervisor
Waste Management Section
Waste and Underground Tank Management Bureau



Montana Department of
ENVIRONMENTAL QUALITY

Judy Martz, Governor

P.O. Box 200901 • Helena, MT 59620-0901 • (406) 444-2544 • www.deq.state.mt.us

MAILED
6-24-04

June 24, 2004

Mr. Gary Keeler
Butte-Silver Bow Landfill
126 West Granite Street
Butte, MT 59701-9216

RE: March 2004, Ground Water Monitoring, Old Butte Landfill, License Number 90

Dear Gary:

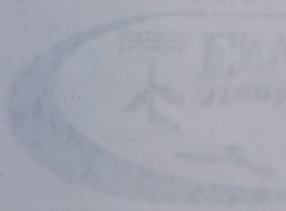
The Solid Waste Program received your March, 2004, ground water monitoring results for the Old Butte Landfill on June 15, 2004. It was assigned to Pat Crowley for review. I anticipate that you will receive a response from Mr. Crowley within 90 days.

If you have any questions on the review status or the results, please contact Mr. Crowley directly at 406-444-5294, or by email at pcrowley@state.mt.us. If you have any other issues or questions, please contact me at 406-444-5345, or at rithompson@state.mt.us.

Sincerely

Rick Thompson

Rick Thompson, Supervisor
Waste Management Section
Waste and Underground Tank Management Bureau



INVITED

Montana Department of
ENVIRONMENTAL QUALITY
Judy Martz, Governor
P.O. Box 200901 • Helena, MT 59620-0901 • (406) 444-2544 • www.deq.state.mt.us

MAILED
4-27-04 JH

April 27, 2004

Mr. Gary Keeler
Butte-Silver Bow Landfill
126 West Granite Street
Butte, MT 59701-9216

Re: September and December Ground Water Monitoring Results, Old Butte Landfill.

Dear Gary:

I have reviewed the sampling results from the September, 2003, sampling event and the December, 2003 sampling of BSB-A6-R at the Old Butte Landfill. It appears that there is a positive decline in contaminant values as the corrective measures assessment predicted. The total VOC contamination at BSB-A6-R has gone from 105.92 µg/L in February, 1996 to 49.89 µg/L in December of 2003. Using the total of all VOCs is a good way to indicate cleanup as it simply sums the various break down products. The metals have shown the increase expected as the tailings dewater and are no longer diluted by infiltrating stormwater. The tailings dewatering is supposed to take a few more years and then we should see the predicted decrease in them.

If I can be of further assistance in this matter, please feel free to contact me. My direct phone line is 406-444-5294 and my email address is pcrowley@state.mt.us. The Solid Waste Regulatory Program is a part of the Permitting and Compliance Division, Waste and Underground Tank Management Bureau, Waste Management Section.

Sincerely,

F. Patrick Crowley

F. Patrick Crowley
Solid Waste Regulatory Program Manager

Cc: Chuck Stillwell, ARCO, 317 Anaconda Road, Butte, MT 59701
File: Silver Bow County/Old Butte Landfill/Lic#20/ground water monitoring
Path: G:\CSB\S w s\GWater\BSBgw0104.doc

INITIALS _____ DATE _____

SW OUTGOING CORRESPONDENCE

NEW APPLICATION	Initial / Date
Janet H	
Rick T	

INSPECTIONS	Initial / Date
Pat C	
Janet H	
Rick T	

CLOSURES	Initial / Date
Pat C	
Janet H	
Rick T	

FEES	Initial / Date
Janet H	
Rick T	

COMPLAINTS	Initial / Date
Pat C	
Janet H	
Rick T	

GROUND WATER	Initial / Date
Pat C	
Janet H	
Rick T	

GEN CORR	Initial / Date
Pat C	
Janet H	JH 4-27-04
Rick T	RT 4-27-04

MISCELLANEOUS	Initial / Date

Montana Department of
ENVIRONMENTAL QUALITY

Judy Martz, Governor

P.O. Box 200901 • Helena, MT 59620-0901 • (406) 444-2544 • www.deq.state.mt.us

MAILED
3-17-04 JH

March 16, 2004

Mr. Gary Keeler
Butte-Silver Bow Landfill
126 West Granite Street
Butte, MT 59701-9216

RE: December 2003, Ground Water Monitoring, Old Butte Landfill, License Number 90

Dear Gary:

The Solid Waste Program received your December, 2003, ground water monitoring results for the Old Butte Landfill on March 11, 2004. It was assigned to Pat Crowley for review. I anticipate that you will receive a response from Mr. Crowley within 90 days.

If you have any questions on the review status or the results, please contact Mr. Crowley directly at 406-444-5294, or by email at pcrowley@state.mt.us. If you have any other issues or questions, please contact me at 406-444-5345, or at rithompson@state.mt.us.

Sincerely

Rick Thompson

Rick Thompson, Supervisor
Waste Management Section
Waste and Underground Tank Management Bureau

MAILED

Montana Department of
ENVIRONMENTAL QUALITY

Judy Martz, Governor

P.O. Box 200901 • Helena, MT 59620-0901 • (406) 444-2544 • www.deq.state.mt.us

MAILED
2-12-04 JK

February 11, 2004

Mr. Gary Keeler
Butte-Silver Bow Landfill
126 West Granite Street
Butte, MT 59701-9216

RE: September 2003, Ground Water Monitoring, Old Butte Landfill, License Number 90

Dear Gary:

The Solid Waste Program received your September, 2003, ground water monitoring results for the Old Butte Landfill on February 2, 2004. It was assigned to Pat Crowley for review. I anticipate that you will receive a response from Mr. Crowley within 90 days.

If you have any questions on the review status or the results, please contact Mr. Crowley directly at 406-444-5294, or by email at pcrowley@state.mt.us. If you have any other issues or questions, please contact me at 406-444-5345, or at rithompson@state.mt.us.

Sincerely

Rick Thompson

Rick Thompson, Supervisor
Waste Management Section
Waste and Underground Tank Management Bureau

MAILED